

Republic of Armenia



ORGANIZATIONAL AND HUMAN CAPACITY BUILDING ASSESSMENT

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Water Resources Management Agency

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Ministry of Nature Protection

February 2003

~ ACKNOWLEDGEMENTS ~

A month is a short time in which to arrive at a complete understanding of a nation's water resources management policy and practices. I cannot claim to have done so during my four weeks in Yerevan. Yet, I do claim to have acquired enough comprehension of Armenia's nascent effort to reform its water management, to be of some small use as they proceed with this exceedingly important endeavor. To the extent that this is true, it is a credit to the kindness of strangers; a handful of people who made it their business to educate me on this subject rapidly and thoroughly, while doing their best to ensure that I felt at home in their culture.

These persons are many more in number than I will list here. Still, there are several among them whom I simply cannot leave to anonymity. These include Tamara Babayan, Deputy Country Director, Academy for Educational Development, who managed this Project; Eduard Mesropyan, a valued member of the Project Team, and General Manager of JINJ Co. Ltd, which provided my office and many other kinds of support, including an endless supply of coffee and tea; and Marina Vardanyan, Project Management Specialist, U.S. Agency for International Development, my original Project contact, and Project liaison with USAID. All of these associates contributed materially to this Project.

I am especially indebted, however, to Kamo Aghababayan, Armenian Country Coordinator for the Tacis Joint River Management Project – Kura Basin, and Ashot Harutyunyan, Head of the Department of Economy for the Armenian Ministry of Nature Protection. These two, consummate professionals and gentlemen, spent countless hours tutoring me on the structure and practices of the Armenian Government, especially as related to the new National Water Code and the equally new national Water Resources Management Agency. It must have been exasperating work for them. Thus, I am most pleased to acknowledge that any meaningful knowledge I have achieved regarding Armenia's water management reforms, I owe to them. Any misunderstanding of this subject, of course, I must attribute to their student.

Should you find yourself in Yerevan or its environs, and need the services of a dependable, companionable, extremely capable translator, you could not be better served than by Vladimir Ter-Ghazaryan. As I cannot recommend that you drive yourself in Yerevan, I should also let you know that Ashot Voskerchian will arrive early with his car, stay late, and get you there on time and safely, while smiling throughout.

MWH
TALLAHASSEE
MARCH 2003

EXECUTIVE SUMMARY

Armenia's ongoing reformation of its national water management system has produced a new National Water Code, to provide legal guidance to this reform, and a new Water Resources Management Agency, to lead the nation in the application of this Code. During February, 2003, under the auspices of the Participant Training Program administered by The Academy for Educational Development, the United States Agency for International Development supported an Assessment of this new Agency's organizational and human capacity building needs, in light of the responsibilities required of it by the new Code.

This assessment revealed several important Agency capacity building needs, including the need to:

- Reorganize its existing staff
- Add additional staff members in general
- Add additional specific kinds of staff
- Provide additional specific kinds of staff training
- Increase its budget for staff salaries, technical equipment, general supplies, training, travel, and transportation

Other significant Agency institutional needs were discovered. These involve:

- A more secure budget, reflective of stated national priorities
- Authority to define the kinds of staff needed and to recruit such staff
- The close support, cooperation, and active collaboration of other water related agencies
- Additional, and rapid, staff education on the meaning and utility of Integrated Water Resources Management and Information Based Decision Making
- A Governmental requirement that all Armenian water and related resources records be rapidly inventoried, evaluated, rated for quality, and placed at the disposal of the Agency
- Retention of unimpeded authority over the regional Water Basin Management Bodies
- Assurance of unconstrained transparency, public participation and accountability in all operations

Despite these many needs, it was easily concluded that the Water Resources Management Agency, with the authority given it under its original Charter, is a good match to the new National Water Code, and represents a laudable start on the task of taking Armenian water management into the twenty-first century. As in any new endeavor, some adjustments are required. It seems obvious, however, that any existing deficiencies in the Agency or its staff can, with skill, patience, and additional resources, be repaired.

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INTRODUCTION

Water is an important resource everywhere. But in Armenia, it is of special importance, to the national economy, to the environment and to its people's distinctive culture. Understanding this, in 1999, the Government of Armenia (GoA) began development of an ***Integrated Water Resources Management Program***.¹ This endeavor led the GoA, in early 2001, to approve² reformation of the nation's water management system. Among other things, this eventually meant the creation of a resourceful, contemporary, national law by which the state's water could be managed.

During development of the new national water code, it became ever more apparent, and ever more controversial, that it should contain provision for the establishment and maintenance of a new, vigorous, agency for enforcing national water management as authorized by the new code; a water resources management agency. The original concept of such an agency grew out of a Study completed in October, 2000,³ which focused on the fact that institutional responsibility for integrated water management in Armenia was scattered between numerous agencies, and received inadequate attention in all of them. The Study found that, in most of these agencies, the water management functions were of low priority, and thus received little in the way of leadership, staffing and funding. The Study Report argued that if all these pieces of the national water management apparatus were brought together into single unit, a strong, innovative agency could result, requiring little in the way of additional resources, but empowered to take responsibility in *'The formulation of a coherent and integrated long-term policy and objectives . . .'*⁴ In recognition of this concept, and in deference to the need for an umbrella organization to take the lead in rigorous enforcement of the new water code, on January 30, 2002, the GoA created⁵ a new agency for managing the nation's waters, the ***Water Resources Management Agency*** (the Agency, or WRMA.) This Agency's ***Charter***, or description of its organization, personnel makeup and functions, was then developed and approved, on May 16, 2002.⁶

Later that year, after extensive effort, including much debate, the new ***National Water Code*** (Water Code; Code) was enacted by the National Assembly of the Republic of Armenia, on June 4th, 2002, and signed into law by the President on July 1, 2002.⁷

During 2001 and 2002, through its Sustainable Water Resources Management Project (SWRMP) the United States Agency for International Development (USAID), through its contractor, ARD, Inc., was heavily involved with the Government of Armenia in producing both the new Water Resources Management Agency, and the new National Water Code. Late in 2002, working through the Participant Training Program administered by The Academy for Educational Development, Inc. (AED), USAID choose to support an assessment to determine the organizational, human resource, training, technical and other capacity building needs of the Water Resources Management Agency, in successfully implementing its mission. This assessment was conducted during the last three weeks of February, 2003. Its preliminary findings were presented, along with an opportunity for questions and comments, in Yerevan, Armenia on March 6, 2003, to a host of Armenian Governmental personnel, Armenian water professionals, international

agency employees and others who deal with Armenian water management. This is the Final Report of that assessment.

THE WATER RESOURCES MANAGEMENT AGENCY

In early considerations of a national water management agency, it was held by many that water's importance to Armenia's economic, environmental and cultural future necessitated a management organization with authority equal to, or near, that of a National Ministry. Strong arguments were made that the new Water Resources Management Agency be “... *set up as an independent body by law or as a body under the GOA or as a Coordinating Committee.*”⁸ It appears that, although many in all branches of Armenia's governmental establishment agreed with the importance of the proposed agency's function, most were uncomfortable with the idea of establishing an “independent agency.” While such organizations have been used to success in other nations⁹, the term “independent” apparently has little acceptability in Armenian governmental circles, when applied to a branch of their own government.¹⁰

At any rate, these options, and others, were all rejected. When the Agency was created, it was as “... *part of the Ministry of Nature Protection of the Republic of Armenia.*”¹¹ Government approval of the Agency's Charter also made clear that it was a part of the ministry of Nature Protection (MoNP).¹² As shown later, this decision has potentially serious consequences to the Agency's success in fulfilling its mandate.

In fact, one immediate question to be examined is, “What is the Agency's mandate?” Its Charter, as approved on May 16, 2002,¹³ gives it clear authority, goals and objectives, and responsibilities regarding the management of Armenia's water. On the other hand, the new Water Code, enacted two and one-half (2½) months later (July 1, 2002), after the Agency and its Charter were already in place, alters significantly Armenia's water law but does not even mention the Agency or its responsibilities. To the contrary the Code identifies by name and function, a number of Water Resources Management Bodies (CHAPTER 2), such as the Water Resources Management and Protection Body (CHAPTER 2, Article 10), the Water Basin Management Bodies (CHAPTER 2, Article 11), and the Water Systems Management Body (CHAPTER 2., Article 12). The Water Resources Management Agency, however, has not had either its name, function, or governmental location changed as a result of the Code's passage. Thus, two early conclusions are evident as regards the management of Armenia's water:

- *The Water Resources Management Agency's authority, goals and objectives, and responsibilities, as spelled out in its Charter and in the decision creating the Agency, remain unchanged*
- *The new Armenian National Water Code names several additional water resources management bodies, and gives to them many of the functions, originally assigned to the Water Resources Management Agency*

THE AGENCY AND THE WATER CODE

Given these conclusions (above) it seems evident that there are now overlaps between the mandate spelled out in the Agency's Charter and the mandate given, for example, to the Water Resources Management and Protection Body, by the Code. Thus, there are questions about the true mandate of the Agency. For the purposes of this Study and Report, it was assumed that the Agency's Charter still faithfully reflects the goals and objectives, and responsibilities, i.e., the mandate, of the Agency.

It is recommended that these overlaps be remedied at the earliest opportunity by the simple expedient of ensuring that all the nineteen (19) functional items listed in Article 10 of the Code are formally assigned: either, perhaps preferably, to the Agency, or to some other recognized water management and protection body. In doing so, however, care must be taken not to scatter these responsibilities so widely that they will be ineffective in securing water's true value for the good of all of the nation's people.

Attention must also be paid to the possibility that older, more established, entities may attempt to pick off the relatively easy to fulfill, but glamorous, of these responsibilities for themselves, leaving the young Water Resources Management Agency to carry out the more difficult, more onerous responsibilities with little resources.

AGENCY ASSETS

The Water Resources Management Agency is central to Armenia's *Integrated Water Resources Management* program (IWRM), and to the assignment of water rights through Information Based water use permits, something the Armenian government says it fervently wants. Moreover, it is charged with a number of other tasks having great national, even international consequence. However, the agency also is a very young entity, and at the moment, politically weak, poorly funded, understaffed and inadequately equipped to carry out the assignments of its Charter. Successful implementation of these tasks requires the Agency to operate with the highest degree of professionalism, with great technical skills using adequate amounts of modern technology, and with acute economic and political sensitivity.

STAFF

The Agency has a staff of forty one (41) and is now organized into four (4) Departments, as shown in Figure 1.

Inquiry was made as to why the Agency had a staff of forty one, expecting to be told the functional logic behind this number. Instead, the answer was that this is the size of such an Agency in Armenia, according to Civil Service rules; a surprising answer, and one which must not be allowed to endure.

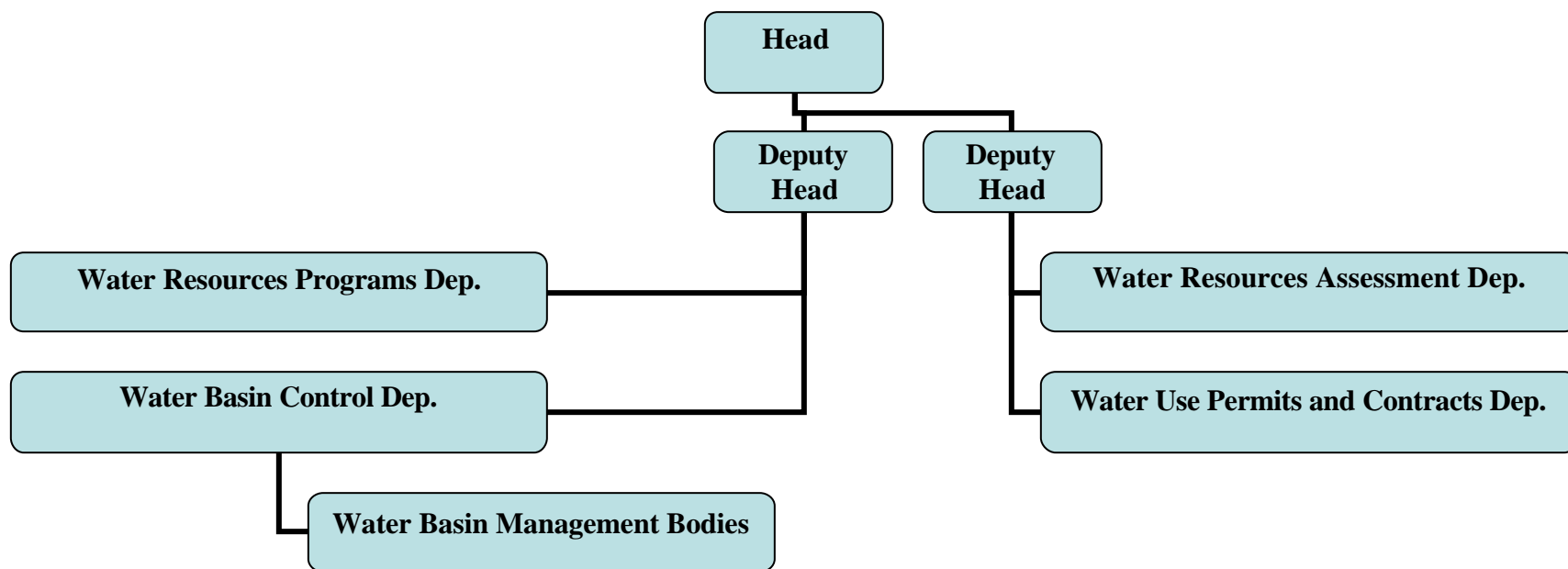


FIGURE 1: EXISTING ORGANIZATIONAL STRUCTURE - WRMA

Staff Evaluation: An evaluation of the Agency staff's water resources management capabilities was undertaken, based on:

- Two (2) interviews with its Deputy Heads
- Interviews with a number of its members
- A review of specialties, educational backgrounds, and years of experience for the entire staff
- A sampling of about twenty five (25) percent of the staff's individual curriculum vitae

From this evaluation it is concluded that the existing staff is long on experience with water and related resources, but short on experience, training and formal post secondary education directly related to either integrated water resources management, information based water resources decision making or water basin management. Its upper ranks appear to be experienced professionals, eager to make the Agency a success. The middle rank personnel seem to have adequate relevant education, along with ample experience and training relevant to the task at hand. They also seem to be sufficiently professional.

The lower ranks have education, training and experience as might be expected of young and entry level staff. They have had little time or opportunity to become professionals. Their morale is suspect, as they are grossly underpaid; there are no funds for modern equipment or for training, and to this point, no status to their jobs. There is a high turnover among this staff group.

OTHER ASSETS

Today, the Agency has very nearly nothing, except a staff, with which to work. It has no computers, no word processing, no water data management or modeling software. It has no modern systems for handling water related information, such as Geographical Information System (GIS) hardware or software. It does not even have reliable private network communication equipment, indispensable for dealing with such sensitive issues as water rights, or water use permits. It is lacking in funds for travel and for training. It has only barely adequate, crowded, space, along with minimal furniture and supplies.

In short, it is lacking, seriously lacking, in almost everything, other than staff, required to ensure that an information based, integrated, water resources planning and management system can operate effectively. Until it acquires these assets, and learns to use them skillfully, it cannot even be hoped that the Agency can fulfill its function successfully.

REORDERING AGENCY FOCUS

The Agency is now in its third transitional period, i.e., those following:

- Its creation
- Issuance of its Charter
- Passage of the new Water Code

Staff members present during any of those periods must have labored under a great deal of uncertainty, with each new transition increasing the uncertainty. Such uncertainty harms morale, increases the difficulty of understanding one's place and functions in the organization, and thus strongly impairs development of the requisite staff professionalism, skill and sensitivity. It also contributes significantly to the wasting of Agency resources through higher than normal staff turnover.

In short, such periods of prolonged uncertainty often cause an agency's staff, and thus the agency, too loose focus on their mission, their mandate. It is time to end this uncertainty, and refocus the Agency's sense of mission, by:

- **Realigning the Agency's Charter functions to match requirements of the Code**
- **Assigning priorities to Agency activities**
- **Reorganizing the Agency to ensure fulfillment of these priorities and other Code required functions**
- **Acquiring funding to ensure adequacy of staff, equipment, training and other resources necessary to the Agency's success**

REALIGNING AGENCY FUNCTIONS

These actions were discussed earlier. They are mentioned here again only for emphasis.

ASSIGNING PRIORITIES

Consideration of the Agency's Charter and the new Water Code yields the identities of four crucial functions requiring immediate action, that is, four priorities. These are:

- Beginning development of principles, standards and procedures for processing water use permits
- Starting development of an Armenian Water Resources Management Cadastre
- Initiating development of national water resources planning based on Water Basin planning
- Commencing development of proposals for enhancement of national water policy, the national water program, and national water management procedures

Naming these functions as priorities does not mean that the Agency's other goals, objectives and responsibilities, as defined in the Charter, are to be ignored. To the contrary, all these other assigned functions, call them general, or secondary functions, must be addressed, as they are as legitimate as the priorities noted above. The secondary functions, however, can be addressed at a slower pace; indeed, many of them are of such a complicated nature that they must be addressed more slowly, more deliberately. Furthermore, immediate pursuit of the priority functions has several advantages; for example,

- It gives the Agency an important place to start its water management activities
- It offers a rational basis on which to organize the Agency
- It offers Agency staff an opportunity to begin learning the intricacies of the Code by working with it, rather than by studying it
- It provides the Agency leadership an opportunity to evaluate and quantify the Agency's immediate training and equipment needs
- It requires the Agency to immediately identify and develop the policies, procedures, regulations to support Integrated Water resources Management (IWRM)
- It presents the Agency and its staff with an impetus to learn about and apply the concepts of IWRM, concepts that are relatively new to Armenia, such as:
 - ❖ Integration of environmental policy into water management policy
 - ❖ The use of conjunctive water management
 - ❖ The use of information based water management and the informational collection, storage and modeling requirements for doing so

In other words, pursuit of the priority areas recommended above carries the Agency naturally, inevitably and in a logical progression into pursuit of all its functions.

AGENCY REORGANIZATION

With all due respect to the present Agency leaders, it is suggested that, if the Agency is to begin focusing on the priority actions as noted above, it must be reorganized. The existing organization has seven (7) people each in three (3) of its Departments. This seems to be a highly artificial situation, and probably is.

The current fourth (4th) Department has seventeen (17) people in it. As this large Department is the Water Basin Management Department, there is a certain logic in it being the largest. It is difficult to definitively characterize that logic, however, when not a single person in the Department seems to have formal training, or experience, in water basin management.

Rather than follow the logic of function, the existing organization gives the appearance of deriving more from convenience than from any sense of priority needs. If the organizing principle was function, rather than convenience, it is almost a certainty that its organizational appearance would not be so regular; the organization chart would likely to have more (or fewer) groups; the groups are likely to have greater variability in size; and the staff of each group more likely, in terms of training, experience and skills, to reflect each group's responsibilities.

This subject will be covered more extensively, below, in a separate segment of this Report, where a proposed Agency reorganization will be offered.

ACQUIRING ADEQUATE FUNDING

Providing funding for additional qualified staff, modern equipment, further training and other resources is an absolute requisite to the Agency's success in meeting its existing and future responsibilities.

First, the salary structure for the Agency's staff leaves much to be desired. It is so low that there is little chance of attracting, or keeping, the highly trained staff needed for the sensitive work envisioned by the Agency's Charter. In noting this, it is recognized that all Armenian Government salaries are low; too low. A way around this problem must be found for the Agency, however, or it will find itself simply a place of training for the highly skilled water management scientists, engineers and technicians needed in the private sector.

Second, and this cannot be given enough emphasis, the assignment that has been set for the WRMA is based on contemporary approaches to water management; i.e., Sustainable, Integrated, Water Resources Management and Information Based Decision Making. It simply is not possible to execute the tasks associated with satisfactory accomplishment of this assignment without modern equipment. This equipment is expensive, as is the training required for its efficient, effective use. A large investment is required, soon, if the Water Code is to have any utility before it becomes, as was the old one, outdated.

A PROPOSED REORGANIZATION - WRMA

There are, of course, many organizational possibilities for an institution such as the Agency. One such, suggested here for Agency consideration and possible adoption, is shown below in Figure 2. It is based on the logic of the responsibilities given to the Agency in its Charter on the new Armenian Water Code; and on the priority Agency functions suggested above.

This proposed new structure is based on certain assumptions about the Agency and its future. Among these are:

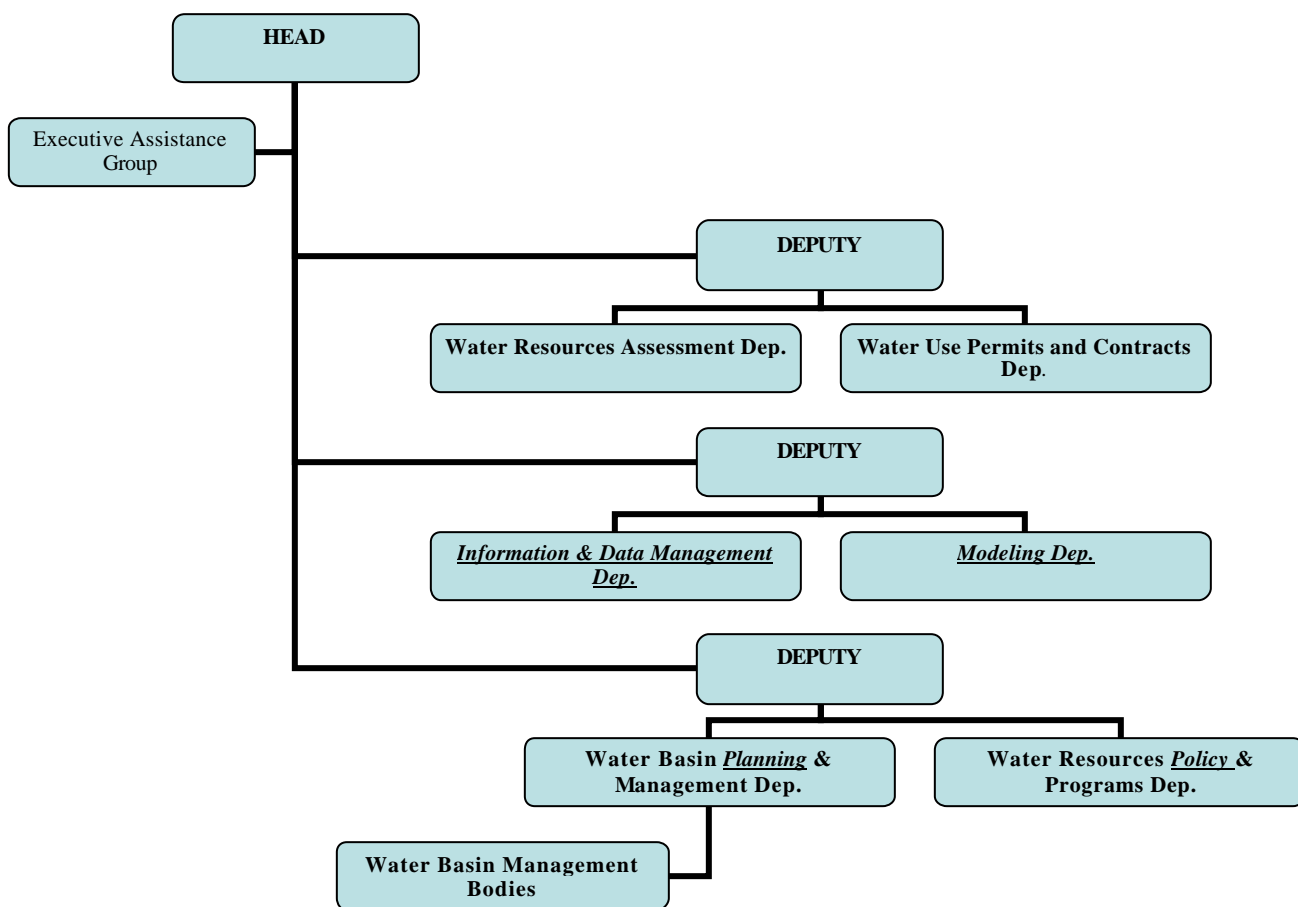


FIGURE 2: PROPOSED ORGANIZATIONAL STRUCTURE - WRMA

- An expected growth of activity
- The addition of new, high speed equipment
- The additional of highly skilled professional and technical staff

The proposed organizational structure also envisions two (2) new Departments, directed by a new Deputy Head. The functions of the new Departments are explained below, along with the functions of the original, but reorganized, four (4) Departments. The new structure also includes a new Executive Assistance Group, to assist with items needing rapid response and with items that cannot be easily assigned to other Departments, because of their complexity or sensitivity.

EXECUTIVE ASSISTANCE GROUP – FUNCTIONS

This group is suggested in light of the Agency's experience to date. It includes the Agency Head, the Agency Deputies, and others as may be designated by the Agency Head. Its makeup is expected to vary somewhat from day to day, according to the needs of the moment. It will always be composed of certain staff however, such as for example, administrative specialists, an economist, a lawyer, and a communications (public relations) specialist. The very existence of this group should insure the Agency Head more time to think! And this executive has a lot to think about, such as how to gain the political support and good will needed to acquire all the other resources essential to the Agency's success.

INFORMATION AND DATA MANAGEMENT DEPARTMENT – FUNCTIONS

This is one of the two proposed new Departments. It is assumed that its staff will have successfully completed special training in modern techniques and technologies for high speed information and data storage and management. A further assumption is that this Department will be equipped with the up-to-date technologies and equipment it requires. Its basic functions are:

- To lead, that is, to propose and be an advocate for, the implementation of basic and applied scientific research in water management and protection
- The incorporation of information and data from basic and applied scientific investigations, and other reliable sources into a national water resources management cadastre
- To record, as the central part of a state water resources management cadastre, all water use permits, including all the information and data they contain

Data alone can be handled by any of a number of data entry, storage, and retrieval systems. The related information base required for rapid information based decision making, however, implies the use of Geographical Information Systems, and Global Positioning technologies. As discussed below, it also requires high speed modeling capability.

It is emphasized that the “cadastre” mentioned here is not meant to replace, or take over, the hydro-meteorological cadastre already in existence. However, every Agency function described in its Charter requires for its accomplishment an extensive data and information base on Armenia's water and related resources; one that is immediately at hand and rapidly accessible. That compilation of information does not exist; it will have to be built largely from this time forward, and that is the “cadastre” being discussed here.

MODELING DEPARTMENT – FUNCTIONS

It is suggested that this new Department be created to be of constant assistance:

- As required in decision making on all aspects of water and related resource management
- In ensuring development of maps of protection zones in aquatic ecosystems
- In developing, as needed, other visual representations for use in water resource management

Information based decision making requires repeatedly asking, and repeatedly answering to the degree possible, the question, “*What if?*” The way to answer that question as rapidly and as accurately as possible is through the use of modern, high speed, modeling techniques. The use of such techniques requires more than equipment; it requires a staff that is skilled in using these techniques and this equipment on the same kinds of decision making, on a daily basis. Thus, it requires a permanent, at hand, Department with such abilities.

WATER USE PERMITS AND CONTRACTS DEPARTMENT – FUNCTIONS

This Department’s few functions lie at the heart of Armenia’s attempt to reform the management of its water and related resources. These include:

- Approving allowable quantities of water that can be safely and sustainably extracted from surface and ground water bodies
- Adopting principles, standards and regulations on water use permit acceptance, review and approval
- Receiving water use permit applications through authorized bodies, and making the public aware of these applications
- Reviewing these permit applications in a timely fashion, rejecting or accepting them and issuing water use permits; while keeping the public fully informed of the actions at every step

WATER RESOURCES ASSESSMENT DEPARTMENT – FUNCTIONS

This Department has the task of performing, and re-performing as necessary, certain critical assessments and evaluations relative to the state of Armenia’s water, its quantity, quality, utility and availability. These assessments include:

- Classification of water and related resources by utility, potential and existing use, the functions they can or might serve, and their current status
- Assessment of safe water withdrawal, purposeful water use, quantity and quality of discharges
- Evaluation and assessment of water loss quotas
- Initiation of proposals on monitoring and investigative needs

- Identification of threats to depletions in water catchments areas
- Identification of measures for preventing harmful impacts on water ecosystems

WATER RESOURCES POLICY AND PROGRAMS DEPARTMENT – FUNCTIONS

Aside from the Agency Executives, this Department can be thought of as the ‘*Brain Center*’ of the Agency. This Department has the all important responsibility of providing leadership for the ongoing critical analysis of Armenia’s entire water and related resource program. It should be staffed with people trained and experienced in dealing with policy and planning issues; people who routinely think “outside the box.” They are the social scientists, biologists, ecologists, chemist and health professionals who must:

- Coordinate preparation of the draft national water policy and national water program
- Develop principles and standards for authenticating assessments of the ecological-economic impact that anthropomorphic activity has on water and related resources
- Participate in the development of water quality standards
- Establish the marginal allowed constituent concentrations and minimum flows for ecological needs
- Approve qualitative and quantitative criteria for wastewater discharge
- Take part in the development of regulations for losses associated with water use, wastewater disposal and other water systems
- Establish the allowed quantity of water extraction needed for a privileged ground water use right, as per the Code

WATER BASIN PLANNING AND MANAGEMENT DEPARTMENT – FUNCTIONS

This is the Department that will lead the National Water Planning effort, and do the planning involved in the day by day water management activities of the Agency. It will:

- Lead the development and implementation of Armenia’s Water Basin Planning
- Assist in the development and updating of the National Water Plan
- Participate in water resources protection planning, and water distribution planning, within the National Water Basins
- Develop medium-term water allocation plans
- Lead implementation of the Joint Scientific and Technical State Policy in Water Resources Management and Protection,

REGIONAL WATER BASIN MANAGEMENT BODIES – FUNCTIONS

As shown in Figure 3, there are five (5) of these organizations designated by the Armenian Government.¹⁴ According to the new Water Code, these Bodies have five (5) designated functions. These functions are:

- Develop Basin Water Management Plans, based on the National Water Program, making sure that the Basin's water interests and the general public interests are incorporated into these Basin Plans
- Serve as the link between the Water Resources Management Agency and the communities of the Water Basin
- Record Water Use Permits issued to Basin users by the WRMA
- Ensure water resources protection in the Basin
- Ensure that water use does not exceed the limits allowed by the Water Use Permits; report on water use to the WRMA

It is suggested that carrying out these functions satisfactorily will require three (3) to five (5) staff members per local Water Basin Management Body. It also will require, in each Water Basin office:

- ❖ At least one high speed computer
- ❖ Global positioning and other water location, monitoring and sampling equipment
- ❖ A high speed communication and data link with the WRMA

Ideally, all the local Water Basin Management Body offices should be linked together, and with the WRMA, in a broadband network, with all nodes having access to the Internet (the World Wide Web.)

OBSERVATIONS

It is worth noting that two areas often encountered in the Water Law of other nations or states are not evident in the National Water Code of Armenia. These involve setting forth the priority of water rights; the beneficial uses of water; and the priorities of beneficial uses.

PRIORITIES AND BENEFICIAL USES

It is necessary that the agency issuing permits defining individual water rights have a preexisting rule or procedure for settling two kinds of issues that often arise. These issues are the:

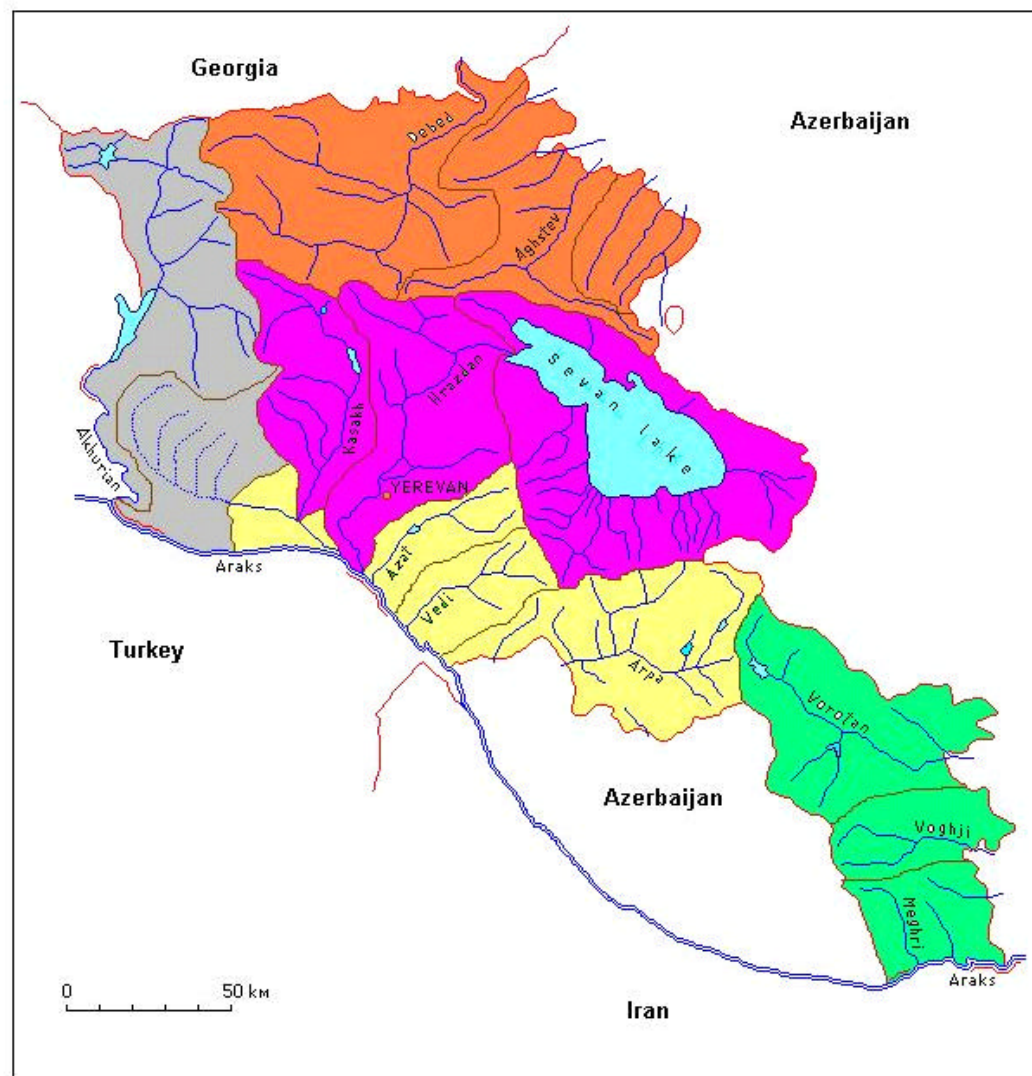
- Priority or Seniority of Water Permit holders. The question being answered here, is, "How to determine whose water right is first in line? How will the decision be made as to which permit (right) holder has his or her water supply limited or withdrawn during a water shortage situation?"

**FIGURE 3: REGIONAL WATER BASIN
MANAGEMENT BODIES**

Five Water Basin Management Bodies

Approved (January, 2003)

- **Sevan-Hrazdan**
- **Northern**
- **Akhuryan**
- **Ararat**
- **Southern**



- Definition of and Prioritization of Beneficial Water Uses, The question being dealt with here is, “Which water rights holders or applicants will make, or is making, the best use of water, as defined by existing rules?”

These have been found by other governments and water permit or right holders to be extremely important considerations. While these might be easily included in the Code through the Normative Acts now being prepared pursuant to it (for example, through Article 121, Paragraph 5, Subparagraph 6, which calls for “*Approval of the model forms of the Water Use Permits, upon presentation by the Water Resources Management and Protection Body*” they do not now appear to be a part of the Code.

INDEPENDENCE

On a broader theme, it serves to remember that a major reason for attempting water resources management reform in Armenia was that the responsibility for managing this important resource was shared by too many inadequately funded, understaffed agencies. The job was not being done to the satisfaction of Armenia’s people or its Government. Thus, a decision was made to gather these responsibilities together and place them in the hands of a single agency. The decision also implied that this single agency would be supplied with the independence, the information, the training, the human resources, and the fiscal resources to carry out its function in a timely and skillful manner. A reasonable set of question then, might be, “Is this happening? and, “If it is happening, is it proceeding at a reasonable pace?” Some observations on these questions developed during this Study are offered below.

Experience has shown that, fundamental to successful Integrated Water Resources Management are five basic institutional principles:¹⁵ These are:

- *A competent management structure with very clear mandates at each level*
- *Separation of powers in the management structure*
- *Rigorous application of transparency, public participation and accountability in all operations*
- *Decentralized operations*
- *Assurance that all stakeholders are given full consideration*

The first of these items expresses the comparatively universal experience that success demands a clear definition of those involved in the endeavor, how they are involved, who leads them, and the authority for the undertaking. In the case of an officially sanctioned undertaking, it also implies that those not formally included in it will not infringe on it, but instead, support it. As applied to Armenia’s water resources management, this item contains the collective truth that these resources can be administered most effectually when they are the responsibilities of a single agency with a clearly defined mission. Where such responsibilities are shared between two or more organizations they are likely to be the priority of neither; and scarce resources may be wasted by contention for power.

In the year since the WRMA was created, it has already become obvious that disputation continues over the decision to create an Agency with even the little autonomy it was originally

thought to have. Some in Armenia's governmental structure are quietly continuing to challenge this decision, and obstruct its implementation. Not only are they challenging the decision, but actively working to see that it is reversed or circumvented. Furthermore, the GoA agencies responsible for seeing that the newly created Agency is adequately supported with economic and human resources have not done so.

In the ongoing effort to reform Armenia's water resources management the agency originally charged with the management tasks was the Water Resources Management Agency. In the new National Water Code, the authority for national water resources management was passed to an entity called the *Water Resources Management and Protection Body*. Since then the Water Resources Management and Protection Body has been defined as the Ministry of Nature Protection; which seems to have started dispersing the functions involved in the overall management of Armenia's water to several of its departments. Furthermore, the Ministry can decide how the funding they receive for "the Water Resources Management and Protection Body," is distributed, and will undoubtedly have an important say in deciding how the funds received for water use permits are used.

Thus, authority for, i.e., leadership of, Armenian water resources management now clearly rests with the Ministry of Nature Protection, which is in the process of constructing a management structure wherein the Water Resources Management Agency's function, staffing, and funding is still in doubt more than a year after its creation.

While the developing approach to Armenian water management certainly is starting to provide accord with the second item (above) required for success, "*Separation of powers in the management structure.*" it has thus far failed to result in ". . . *very clear mandates at each level.*" (item one.) Moreover, this approach is likely to make it more difficult, although not impossible, to achieve item three, (above,) '*Rigorous application of transparency, public participation and accountability in all operations.*'"

Of course, if the WRMA retains the function of overseeing the regional Water Basin Management Bodies, this arrangement should provide adequately for assurance of items four (above), "*Decentralized operations.*", and five (above), giving ". . . *all stakeholders . . . full consideration.*'"

Thus, it is difficult to be explicitly critical of the approach to Armenian water management structure now seen to be developing under the Ministry of Nature Protection. However, recalling that these issues appear to have been resolved in January 2002 with creation of the WRMA, the delays and bureaucratic maneuverings that have taken place since are puzzling. More importantly, they have a distinct flavor of resistance to water resources management reform. They bring to mind the resistance to the original argument¹⁶ that such an important task should be given to an "Independent Agency."

This Study did not investigate the matter further, but there are at least two (2) precedents for independent government agencies in Armenia. Both are non-constitutional bodies holding important portfolios. One of these is the *State Committee on Land Property* (Real Estate); the other is the *State Committee on Water Economy*. This Report cannot conjecture on their utility as models, regarding Armenian water resources reform.

Whether or not more independence is needed for the WRMA is a question for the Armenian Government to resolve. Nonetheless, two observations about the management structure for Armenian water resources reform seem to be required here. Both concern international and other agencies that, potentially, might provide the WRMA some of the much needed funding described above. These are advised to carefully monitor the situation to ensure that:

- The WRMA retains the authority to use those funds for water resources reform
- Reform continues; that Armenian water resources management does not revert to the state of affairs that existed before creation of the WRMA and enactment of the new National Water Code

INFORMATION

There is a significant disconnect between Code requirements and WRMA Charter requirements on the one hand, and existing, organized, readily accessed water resources information and data. Although there is a general view that considerable records on Armenia's water and related resources exist, there does not seem to be a consensus opinion on the quality, comprehensiveness, location, or accessibility of this existing information and data.

Without readily available, high quality specifics about Armenia's water, its management will have to proceed, initially, on informed guesswork. One of the first water management activities needing to be done, then, is to have the water and related resources records of all Armenia's agencies inventoried, evaluated, rated for quality, and placed at the disposal of the WRMA. These records do not have to be physically moved to the WRMA, but neither should the Agency be required to search for them, to seek out their existence.

Another approach to the information problem is simply to have the Agency start compiling its own records, using whatever existing data and information that can be readily found, combined with that required on incoming permit requests. This approach will yield, slowly, a reliable set of knowledge on this subject.

TRAINING

One of the areas where Agency staff, indeed, the staff of several Armenian agencies, needs to receive additional training at the earliest, concerns the concrete meaning of the terms:

- Integrated Water Resources Management
- Information Based Decision Making

There seems to be little understanding among Agency staff of the importance of these concepts to Agency functions and to their own roles within the Agency. The WRMA can satisfy neither of these provisos, however, unless its staff carries them in their minds, and makes choices in their work rooted in them. It must become automatic for agency staff to make their decisions based on rationality (information based) rather than loyalty to some person, group or personal

ideology. Likewise, it must become automatic for this staff to include the fullest range of considerations (integrated management) in all their decisions; not, for example, just the benefits alone, to one sector. If you haven't been thoroughly schooled in such matters, they are not necessarily a part of your automatic responses to life.

Policy: An area where the above is especially important concerns Agency staff assigned to development of national water policy and national water program proposals. In a nation whose decision making only a few years ago relied more on doctrine than data, neither of the above noted concepts is likely to be observed by Agency staff without explicit instruction, for example, on the linkage between policy, planning, programming, data and other forms of hard information.

Planning: There seems as well, to be a lack of understanding about planning and plans. Planning is a process that produces a plan. Integrated Water Resources Management requires continuous planning and the continuous production of new plans to meet changing conditions. These new plans might be produced at the end of certain periods (one year, every other year, every five years, etc.), or on demand, as needed. Continuous planning and new plans are needed because of real changes in circumstances, such as:

- New tallies or projections in such things as:
 - ❖ Population
 - ❖ Water demand
 - ❖ Available water supply
 - ❖ Change in water use
 - ❖ Changes in climate
- The advent of new technologies, such as:
 - ❖ The ability to utilize new water sources
 - ❖ New developments in water treatment, reclamation and reuse
 - ❖ New irrigation methods
 - ❖ Refinements in hydrologic modeling

Management: There is very little experience within the current Agency staff in River Basin, i.e., Water Basin, Planning and Management. This needs to be rectified very quickly, as Armenia's five designated Water Basins are an integral part of the water management reform effort.

A good start on additional training in this area will be made by the Water Allocation and Water Rights Study Tour, to Texas, USA, now being organized for March 2003, by USAID Officials as part of the Armenia: Sustainable Water Management Project.¹⁷ A number of WRMA staff are scheduled to take part in this tour.

Other areas of water resources management where Agency staff requires additional training quickly include:

- Data storage
- Data base management
- Hydrologic and hydraulic modeling
- The inclusiveness, i.e., the breadth and depth, of Water and Related Resources Management, for example, good management of these resources is not confined to finding good uses for them, it also includes:
 - ❖ Protecting them
 - ❖ Ensuring adequate provisions for environmental and ecological purposes

RESOURCES

The resources now being devoted to the WRMA are totally incommensurate with its Charter, and equally disproportionate to the importance of water in Armenia, as acknowledged in the National Water Code. The Agency's budget for the year 2003 totals 15,953,000 Drams¹⁸. At an exchange rate of 585 dram per US Dollar, this is equivalent to \$27,270.00.

The Agency's budget is even more inconsistent with its mission than the above might indicate. Allegedly, water resources management is important to Armenia. How is it then that all the WRMA staff are so handsomely underpaid? Their annual salaries in 2002 ranged from about \$100 per month, down to about \$25 per month.¹⁹ There is no modern, or even outdated, equipment with which they might work; few office supplies, and few travel funds. There are no capital expenditures scheduled for 2003.²⁰ Given this situation, it can confidently be predicted that the well qualified people on the Agency's staff will leave as soon as a better job presents itself. Furthermore, as Armenia's private sector develops, it will become increasingly difficult to recruit qualified staff.

The WRMA has a paucity of staff, many of whom, in turn, are deficient in education, training and experience relative to the Agency's mission, and their place in the Agency. One informed estimate,²¹ however, by a knowledgeable Armenian professional water management specialist, is that four (4) Armenian Universities alone, graduate from eighty five (85) to one hundred ten (110) persons annually, educated in some water management specialty. Given this availability of highly educated young technical talent in Armenia a genuine question arises; "Is a bona fide attempt being made to staff the WRMA with knowledgeable persons?"

CONCLUSIONS AND RECOMMENDATIONS

This Study must conclude that if the WRMA is to fulfill the functions given it in its Charter, and those being assigned to it by the Ministry of Nature Protection pursuant to the National Water Code, it must obtain many additional assets. These include:

- **PERSONNEL**
 - ❖ **Training:** The Agency must acquire additional training for the existing staff. In general, the existing staff has very little experience in:

- Data handling for Information Based Decision Making
- Water Basin based water and related resources management
- Water Basin modeling
- Integrated Water Resources Management

❖ **Additional Staff:** The Agency must have additional, highly skilled professional and technical staff. More specifically, the expected growth of Agency activity during the next five²² years requires:

- That there should be a growth of three (3) to four (4) additional staff members per year, so that after five (5) years the Agency has a total staff of fifty-six (56) to sixty (60)
- That the Agency have the authority, as should any professional agency, to create the professional descriptions of needed staff, including closely defined job qualifications and job descriptions
- That the Agency have the authority to recruit its staff, then have them approved by Civil Service, rather than the other way round

➤ **SUPPORT**

The WRMA must attain the close support, cooperation, and active collaboration with other water related agencies, including

- ❖ Formal collaboration agreements
- ❖ Designated agency to agency liaisons

➤ **EQUIPMENT**

The Agency must acquire modern, high speed equipment, hardware and software, for the purposes of

- ❖ Communication
- ❖ Data Handling
- ❖ Modeling

The Agency's expected activity, starting soon and continuing to grow over the next five years, requires the immediate addition of new, high speed equipment, hardware and software; the recommendation is for a minimum addition of :

- ❖ Two computers per year, along with such necessary peripherals as printers (normal size for word processing and similar small page tasks, and larger, for producing plans, modeling graphics, maps, and the like), scanners, projectors, as well as common and specialized software
- ❖ A total of at least ten (10) such computers in five years; at least one in each Water Basin Management Body office

- ❖ At least two Geographical Information Systems (GIS) for handling the data base of the water resources management and permit system. One is needed immediately
- ❖ Global positioning receivers, for acquisition of definitive information on the location of water and related resources. Three are needed immediately, and at least nine more over the next five years

➤ **BUDGET**

The Agency must have its own line in the National Budget; the Agency's budget cannot be left to the discretion of the Ministry of Nature Protection; or any other agency or Ministry

➤ **OTHER**

- ❖ There should be a formal GoA Decision modifying the WRMA's Charter, to clarify which of the functions given by Article 10 of the National Water Code to the Water Resources Management and Protection Body (now the Ministry of Nature Protection) are now, or shall be, the responsibility of the Agency
- ❖ The concepts of Priority Rights, Beneficial Water Uses, and Priority of Beneficial Water Uses should be incorporated into the language spelling out the precise conditions under which Water Use Permits may be issued
- ❖ An official English language translation of the National Water Code should be produced

REFERENCES

- ¹ *Armenia: Towards Integrated Water Management*, ECSSD Environmentally and Socially Sustainable Development, Working Paper No. 35, February 7, 2002, p. i.
- ² Government of Armenia Decision No. 92, February 9, 2001.
- ³ *Integrated Water Resources Management Plan Armenia*, Stage 1 Final Technical Report, Part D, Appendix D5, Institutional and Policy Issues, The World Bank, October 2000.
- ⁴ *Cited above*, Appendix D5, Institutional and Policy Issues, The World Bank, October 2000, p.1.
- ⁵ Government of Armenia Decision No. 82, January 30, 2002.
- ⁶ Government of Armenia Decision No.792-N, May 16, 2002.

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- ⁷ Adopted by the National Assembly of the Republic of Armenia on June 4th, 2002, signed by the President on July 1, 2002.
- ⁸ *Previously cited*, Appendix D5, Institutional and Policy Issues, The World Bank, October 2000, p.5.
- ⁹ For example, the U.S. Environmental Protection Agency. Originally created as an “Independent Agency,” it grew into a Cabinet (Executive) Agency, whose Hthe Senate. As such, it was and is the equivalent, in authority, to other U.S. Cabinet Agencies (i.e., Ministries, in Armenia.)
- ¹⁰ These three positions were reported in Personal Discussions with Armenian Nationals and others, in Yerevan, during the study period.
- ¹¹ *Previously cited*, GoA, Decision No. 82, 2002.
- ¹² *Previously cited*, GoA, Decision No. 792-N, 2002.
- ¹³ *Previously cited*, Government of Armenia Decision No. N 5-N, January 10, 2003.
- ¹⁴ Government of Armenia Decision No.792-N, May 16, 2002.
- ¹⁵ Many of the items listed here are well expressed in: *International Experience in Water Management*, Laws and Institutional Issues Affecting Water Management in the South Caucasus, USAID, January, 2002, p.11.
- ¹⁶ *Previously cited*, Appendix D5, Institutional and Policy Issues, The World Bank, October 2000, p.5.
- ¹⁷ Personal communication, Barbara Britton, Yerevan, Armenia, February 11, 2003.
- ¹⁸ The List of Expenditures for Maintenance of WRMA of RA Ministry of Nature Protection Underseen by RA State Budget for 2003.
- ¹⁹ *Previously cited*, GoA, Decision No. 792-N, 2002 (Annex 2, May 16, 2002.)
- ²⁰ *Previously cited*, The List of Expenditures for Maintenance of WRMA . . . RA State Budget for 2003.
- ²¹ Personal communication, Kamo Aghababyan, Yerevan, Armenia, March 3, 2003.
- ²² This is an entirely arbitrary time period, based on the author’s experience with the ways in which, and the rates at which, government agencies might be expected to grow. It would be entirely wonderful if the GoA decided to grow this Agency much faster; its importance certainly merits such alacrity.